



(19)

(11) Publication number:

01

Generated Document.

# PATENT ABSTRACTS OF JAPAN

(21) Application number: **08057970**(51) Intl. Cl.: **H01L 21/3065** B01J 3/02 C2  
4/00 H01L 21/203 H01L 21/2(22) Application date: **14.03.96**

(30) Priority:  (43) Date of application publication: <b>22.09.97</b>  (84) Designated contracting states:	(71) Applicant: <b>TOSHIBA CORP</b> (72) Inventor: <b>KURIHARA KAZUAKI</b> <b>SEKINE MAKOTO</b> <b>OKUMURA KATSUYA</b> (74) Representative:
--	---

## (54) SEMICONDUCTOR MANUFACTURING EQUIPMENT

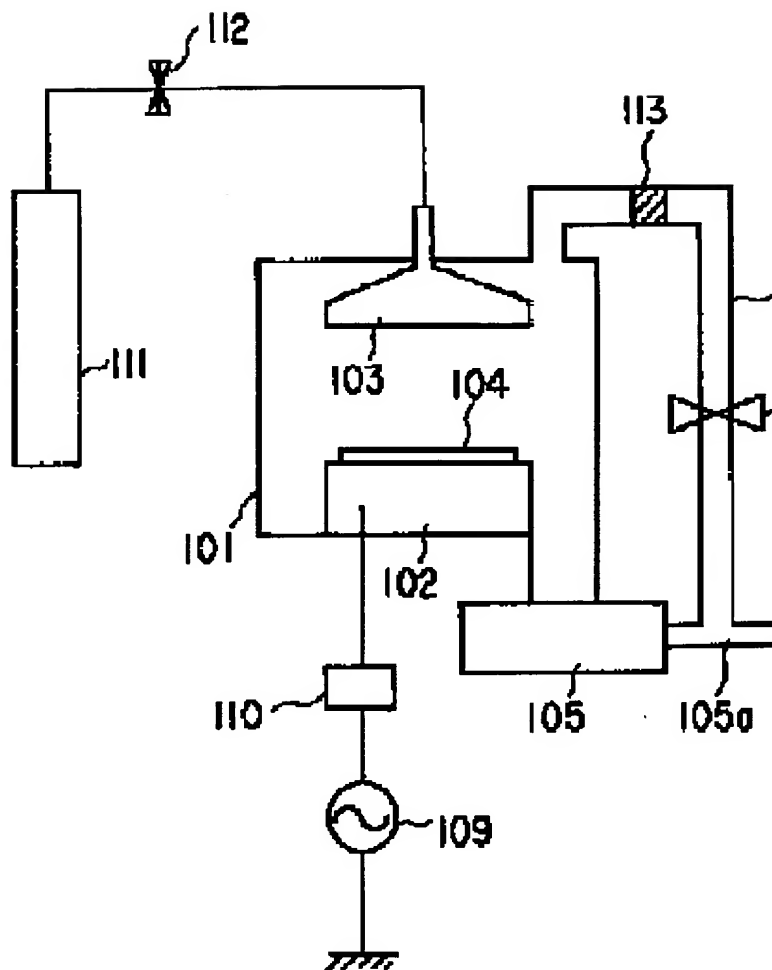
(57) Abstract:

PROBLEM TO BE SOLVED: To enhance usage efficiency of process gas under a decompressed atmosphere of an etching device, etc., and reduce production cost by a method wherein the process gas is supplied to the interior of a vacuum bath for discharging the inside and decompressing and a part of exhaust gas is recirculated from the exhaust side to the interior of the vacuum bath.

SOLUTION: A nozzle incorporated into an anode electrode 103 in a vacuum bath 101 is connected to a gas bomb 111 being a supply source of process gas, and the exhaust side 105a of a turbo-molecule pump connecting with the vacuum bath 101 is connected with a dry pump 106. Further, in the intermediate side of a

recirculation line 107 provided between the exhaust side 105a of the turbo- molecule pump and the vacuum bath 101, a valve 108 and a filter 113 are disposed. A part of the process gas discharged by a turbo- molecule pump 105 from inside of the vacuum bath 101 is returned to the vacuum bath 101 through the recirculation line 107. A ratio of this process gas recirculated is adjusted by the degree of opening of the valve 108.

COPYRIGHT: (C)1997,JPO



BEST AVAILABLE COPY